What is claimed is:

1. A Nuclear Magnetic Resonance (NMR) probe, comprising:

a conduit to provide a sample,

a measurement region in fluid communication with the conduit, and

at least one restriction element to at least partially restrict flow of the sample from the measurement region in at least one flow direction.

2. The NMR probe of claim 1, where the at least one restriction element is biased to at least partially seal at least one opening between the conduit and the measurement region.

3. The NMR probe of claim 1, where the at least one restriction element is disposed in at least one of: the measurement region and the conduit.

4. The NMR probe of claim 1, where the at least one restriction element is non-magnetic.

5. The NMR probe of claim 4, where the restriction element includes at least one of titanium, glass, and ceramic.

6. The NMR probe of claim 1, where the at least one restriction element conform to at least one opening between the conduit and the measurement region.

7. The NMR probe of claim 1, where the restriction element is at least one of: spherical, circular, ovoid, conical, polygonal and planar.

8. The NMR probe of claim 1, further comprising at least one biasing means to displace the at least one restriction element.

9. The NMR probe of claim 8, where the biasing means includes at least one of: the sample, at least one spring, a compressible material, an expandable material, a bending resistant material, a gravitational influence, a mechanical actuation, and an electrical actuation.

10. The NMR probe of claim 8, further comprising a controller operating on the restriction element to adjust the biasing means to maintain the opening between the conduit and the measurement region.

11. The NMR probe of claim 1, further comprising a constriction disposed between the conduit and the measurement region to contact the restriction element.

12. A Nuclear Magnetic Resonance (NMR) probe, comprising:

a measurement region to contain a sample,

a conduit in fluid communication with the measurement region, and,

at least one valve disposed between the measurement region and the conduit to control a flow of the sample between the measurement region and the conduit.

13. The NMR probe of claim 12, where the at least one valve is a check valve.

14. The NMR probe of claim 12, where the at least one check valve is a ball check valve.

15. The NMR probe of claim 12, where the at least one valve is non-magnetic.

16. A Nuclear Magnetic Resonance (NMR) probe, comprising:

a measurement region to contain a sample, and

at least one means for controlling flow of the sample from the measurement region during measurement of the sample.

17. The NMR probe of claim 16, further comprising a conduit in fluid communication with the measurement region to facilitate flow of the sample into the measurement region, and where the at least one means for controlling flow at least partially restricts the flow of the sample from the measurement region to the conduit.

18. The NMR probe of claim 16, where the means for controlling flow is at least one valve.

19. The NMR probe of claim 16, where the at least one valve is disposed between the measurement region and the conduit.

20. The NMR probe of claim 16, where the at least one valve is non-magnetic.